BERMUDA

REPORT

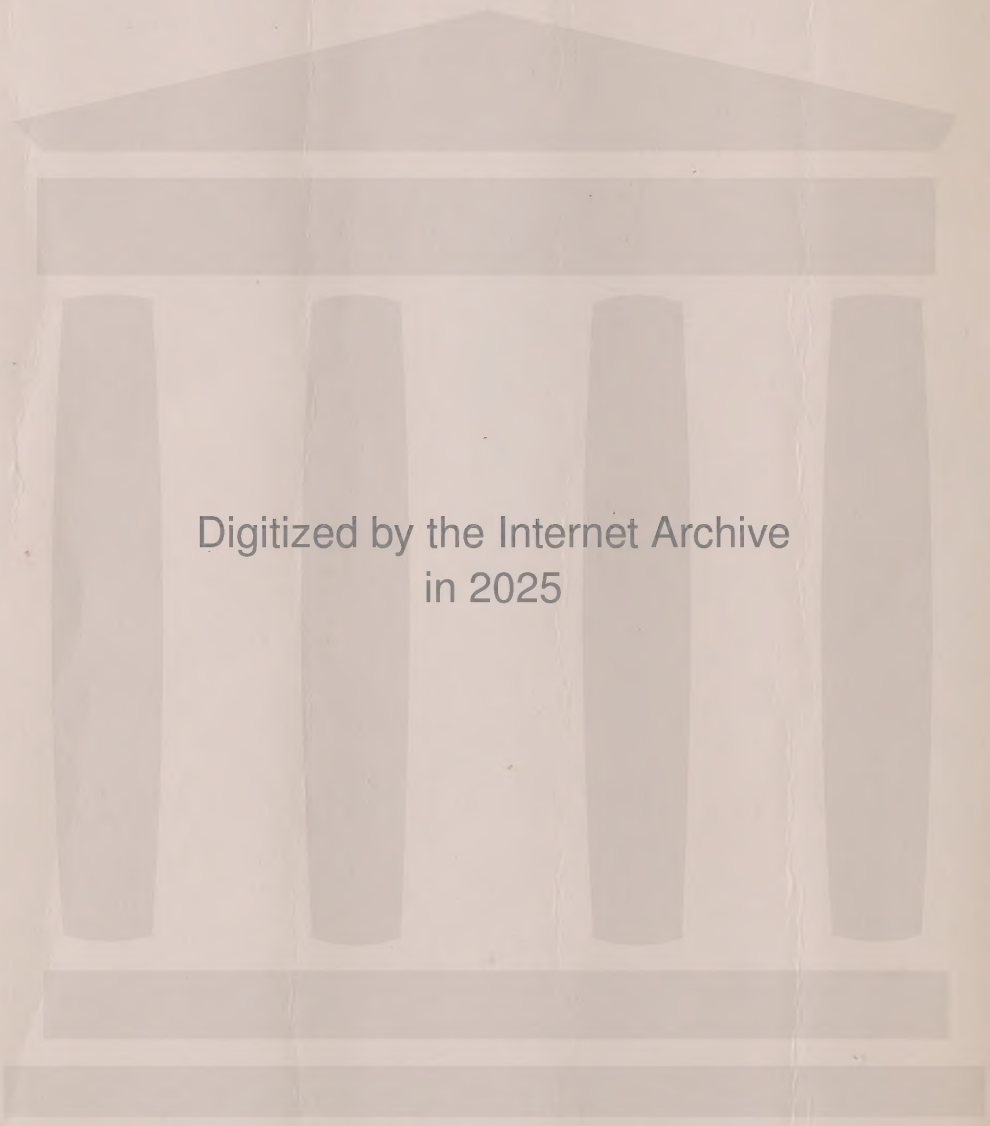
OF

DIRECTOR OF AGRICULTURE

FOR THE YEAR

1952

COMMONWEALTH MYCOLOGICAL INSTITUTE
19 NOV 1953



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REPORT

OF

DIRECTOR OF AGRICULTURE

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Report of Director of Agriculture for the Year 1952

The Chairman Board of Agriculture,

I have the honour to submit the Annual Report on the activities of the Department of Agriculture, for the year 1952, in compliance with the provisions of the Agricultural Act, 1930.

FARM CONDITIONS

During the year under review the farmers of the Colony enjoyed a productive year and staple market prices for most of the produce harvested. The inevitable market surpluses which usually occur during the peak production months, were not so pronounced as in the past, because of the stabilizing influence of planned production and central marketing, which has eliminated much of the guess work and wastage of former years.

The increasing cost of artificial fertilziers has been a source of anxiety to many farmers, who formerly used to maintain farm animals to help maintain the fertility of the soil. Dairying is now practiced by a few people who specialize in that field and hog raising, which formerly contributed to the farm income, is no longer a profitable side-line, because of the exhorbitant cost of feed stuffs. Bermuda farmers frequently harvest three crops of produce during a calendar year and under such intensive cropping, natural soil fertility vanishes very quickly. In the absence of natural manures, organic fertilizer in some form or other should be used in preference to chemical fertilizers. Castor Pomace, a by-product of the castor oil industry, was formerly used extensively by Bermuda's most successful farmers. This organic fertilizer is well suited to local conditions and its continued use in liberal quantities, supplemented by a nitrogenious fertilizer, in the form of Nitrate of Soda or Sulphate of ammonia, for forcing leaf vegetables should assure the best possible results, at the least cost.

AGRICULTURAL STATION

Efforts to improve the aesthetic beauty of the grounds of the Agricultural Station were continued during the year. The collection of forty odd varieties of Oleanders growing in a group on the sloping hill on the western side of Montrose House, has proved an attractive feature, to the many hundreds of tourists, who visit the Station during their stay in the Colony. Likewise the groups of Hibiscus adorning several sections of the grounds, have now reached an advanced stage of growth, which makes them stand out in the landscape, and the many forms and colours of flowers are proving a great attraction to both visitors and native Bermudians.

The disappearance of the cedar, Juniperus Bermudiana, as the main feature of the landscape, following the infestation of the Juniper scale **Carulaspis visci**, has not proved the tragedy it first appeared to be. On the contrary, the disappearance of the predominating cedars have permitted many other more colourful trees and shrubs to be planted in their place, and these are now showing grace and beauty, instead of the olive green and monotonous appearance created by numerous cedars.

REAFFORESTATION

The Reafforestation (Compulsory Powers) Act, 1952, came into force on the 15th May, 1952. This Act provides for carrying into effect, schemes for clearing dead cedars and the replanting of trees and shrubs in their place on all land within fifty feet of any land comprising a highway or other road over which the public ordinarily have a right of way, or comprising a road which gives access to more than three dwelling houses, or which gives access to any hotel or guest house, which has accommodation for more than twenty-five guests.

Responsibility for the carrying out of the Act is vested in the Board of Agriculture and the Director of Agriculture has been delegated the duty of putting into effect, operational plans to be carried out by the Staff of the Department of Agriculture. As a result, the field of operations of the Department of Agriculture have more than doubled and the Agricultural Station has become an operational centre for a large enterprise far removed in character from what it was originally intended to be. Notwithstanding the handicaps that beset a quickly expending enterprise, we have thus far been able to service the Reafforestation equipment to a large extent in our own establishment at the Agricultural Station. We have however, reached the saturation point in this respect and we must now seek further workshops and storage facilities or suffer the handicap of over-development and slowing up of the work.

The roadside clearing programme under the Reafforestation (Compulsory Powers) Act, 1952, was commenced in mid June and by the end of the year, approximately twelve miles of roadside to the depth of fifty feet inland had been cleared of dead cedars. About two thirds of the area cleared of dead cedars was landscaped during the same period and a large number of the newly planted trees and shrubs were individually protected by a rustic cedar plant guard. In the case of areas where cattle are liable to destroy the plants, protective fencing of barbed wire has been provided.

It was estimated originally that the land areas adjacent to the Public highways to a depth of 50 feet, could be cleared of dead cedars, within a period of three years. While the programme was a little behind schedule at the closing of the year, plans had been completed to speed up the work and it is anticipated that the areas will have been liquidated before the end of 1953.

Contrary to the pessimistic statements made when the Bill was before the Legislature, there has been little or no friction between the Authorities responsible for implementing the legislation and the owners of land, whose properties have been cleared of dead cedars. On the contrary, land owners have been keen to have the dead cedars removed and many letters of appreciation have been received, expressing satisfaction at the speed and thoroughness with which the work has been performed.

BIOLOGICAL CONTROL OF INSECT PESTS

The Commonwealth Institute of Biological Control has continued to take an active interest in Bermuda's problems. Dr. W. R. Thompson, Director of the Institute visited the Colony during July to make a brief survey of the cedar infestation. Plans were then made to intensify current Biological Control efforts and to extend this method of insect control in respect of other troublesome pests, which have, within recent years become an increasing menace to farm crops and ornamentals.

ENTOMOLOGICAL AND PLANT PATHOLOGICAL WORK

In the absence of a permanent Plant Pathologist, the Department was fortunate in enlisting the assistance of two eminent specialists in the field of Entomology and Mycology to work on a temporary basis during the year. Mr. Alan Dunstan, Aylmer, Quebec, Canada, acted as Plant Pathologist from January 1st, to April 15th and from November 1st to December 31st. Dr. J. M. Waterston, Research Adviser, Department of Agriculture, Nigeria, West Africa, who visited the Colony on vacation leave, from September to December, placed himself at the disposal of the Department to carry out special investigations of urgent problems.

CITRUS CULTURE

Citrus Culture which has been growing steadily in importance in the economy of the Colony since 1944, received a severe setback towards the end of the year, when it became known that the "Tristeza" disease had been discovered in some citrus groves in Florida. Since nearly all of the citrus stock planted in the Colony had originated in Florida, the danger of introducing the disease into Bermuda was obvious. In fact, there was a strong presumption that the disease could have already been introduced, but since there was no tangible evidence to that effect, something had to be done to prevent further hazards. Consequently, all further importations of citrus trees were stopped from all sources and up to the end of the year, this had been strictly enforced. Unfortunately, this break in the continuity of citrus development has dampened the enthusiasm of many people who had recently planned to take up citrus growing, but the Board and Department of Agriculture, on whose shoulders rests the responsibility to protect the Agricultural industry of the Colony by every means in its power, acted quickly, but not without full consideration of the implications involved. The situation at the end of the year was still a little bit confusing, no positive evidence as to whether or not "Tristeza" was already present in the Colony could be found, but the disconcerting fact that nearly all the citrus trees growing in Bermuda have come from Florida, is ever a disturbing factor.

As soon as the news that "Tristeza" had been discovered in Florida, our thoughts turned once more to the possibility of propagating citrus nursery stock locally. Steps were immediately taken to propagate rough lemon seedlings for budding purposes. Several attempts have been made locally over a long period of time to find a successful technique for budding nursery stock and the results have been invariably disappointing. Budding and grafting techniques are fairly well standardized all over the world and there are no lack of text books for the guidance of people who wish to take up the art. We have taken up the challenge once more and every possible avenue of investigation will be fully explored, in order to find a solution to a problem which has baffled the Department so often in the past.

HEALTH OF ANIMALS

It is gratifying to record the almost complete disappearance of Tuberculosis in the cattle population of the Colony. During the year, the Government Veterinary Officer tested 1,129 head of cattle and only one reactor was found. Out of 471 head of cattle slaughtered in the Colony's abattoirs during the year, the Government Veterinary Officer reports that only four animals showed lesions of tuberculosis.

Brucellosis (Bangs Disease) reported on the up grade in 1951 appeared to have subsided by the end of 1952. The Government Veterinary Officer explains that this easement is due to the extensive vaccination of adult animals with Strain 19 Brucella abortus vaccine.

Hog Cholera which in recent years has flared up alarmingly during the summer months was conspiciously absent during 1952. In preceeding years, the protective methods used against outbreaks of Hog Cholera, was by means of injection of Antisera in healthy hogs during the Spring months and make frequent injections of hogs suspected of having the disease. In 1952 modified live virus vaccine was used in an effort to control the disease. The result appeared to be satisfactory, as no case of hog cholera occurred, however it is premature to determine the effectiveness of the treatment based on one year's trial.

PRODUCTION OF GROUND CROPS, ANIMAL PRODUCTS AND LIVESTOCK POPULATION

A.

Commodity	Area under crop exp. in acres	Avg. yield per acre in lbs.	Total yield in lbs.	Unit Value	Farm Value
Beans	45	4,000	180,000	1/6	£ 13,500
Beets	20	8,000	160,000	6d	4,000
Broccoli	20	2,500	50,000	1/8	4,166
Cabbage	50	10,000	500,000	7d	14,583
Carrots	50	12,000	600,000	7d	17,500
Onions	20	10,000	200,000	8d	6,666
Potatoes, Irish	268	10,000	2,680,000	5d	55,833
Potatoes, Sweet	40	8,000	320,000	6d	8,000
Tomatoes	50	9,000	450,000	1/3	28,125
Miscellaneous	40	8,000	320,000	7d	9,333
Bananas	138	20,000	2,760,000	8d	92,000
	741		8,220,000		£253,706

B. CITRUS

Area under cultivation in acres	No. of Trees	Avg. yield per tree in dozs.	Total yield in dozs.	Unit Value	Farm Value
80	11,200	10	112,000	6/-	£33,600

C. LILY BULBS AND FLOWERS

Area under Cultivation in acres	No. of bulbs planted	No. of bulbs exported	Value	No. of flowers exported	Value
32	1,600,000	98,400	£3,817	2,100,000	£19,181

No. of flower stems exported	Value	Total value of all lily products
42,000	£12,000	£34,998

D. MILK

Total Production expressed in gallons	Value
693,500	£208,000

E. MEAT PRODUCTS

Beef in lbs.	Value	Veal in lbs.	Value	Pork in lbs.	Value	Poultry in lbs.	Value
65,150	£4,886	31,330	£2.349	231,600	£20,265	95,000	£19,000

F. EGGS

Expressed in dozens	Value
300,000	£105,000

LIVESTOCK POPULATION

A. DAIRY ANIMALS

Cows	Heifers	Bulls	Total
1,300	120	20	1440

B. HORSES

Farm and Truck	Carriage	Race Horses	Total
80	70	60	190

C. PIGS

Sows	Boars	Store Pigs	Piglets	Total
300	50	450	1,000	1,800

FINANCE

An examination of the Department's records was made by the Audit Department during the year 1952.

It will be seen by Appendix "B" that the total allocation for 1952 was £135,071.0.0 of which £115,552.7.9 was expended. The Departmental Receipts for the resale of vegetables and other public services rendered, amounted to £54,463.14.3. If the receipts are deducted from the total expenditures, it will be observed that the total operating cost of the Department of Agriculture for 1952 was £61,088.13.6.

APPENDIX "A"

SUMMARY OF RECEIPTS FOR YEAR 1952

Vote 2 (a)	Packing House	66 12 0	
2 (b)	Marketing Centre	43,064 17 7	
2 (c)	Service to Citrus Growers	Nil	
2 (d)	Other Receipts	11,332 4 8	54,463 14 3

The following is a breakdown of the above:—

Vote 2 (a)	Sale of Crates	66 12 0	
2 (b)	Sale of Vegetables at Marketing Centre	43,064 17 7	
½ (c)	Service to Citrus Growers	Nil	
2 (d)	Hire of Equipment	919 16 6	
	Sale of Plants	2,139 5 11	
	Sale of Fertilizer	880 17 10	
	Reafforestation work	5,654 4 1	
	Miscellaneous	1,738 0 4	54,463 14 3

Memo: Reimbursements:—	Miscellaneous		296 7 5
	Sale of Citrus Trees		678 14 9
	Service to Citrus Growers		815 3 6

APPENDIX "B"

EXPENDITURE FOR PERIOD JANUARY 1st TO DECEMBER 31st, 1952

Vote	Services	Amount of Vote	Expenditure	Balance Lapsing
1.	Fees to Members	300 0 0	163 4 0	136 16 0
2-9.	Salaries Established Officers ..	7,452 0 0	5,536 19 10	1,915 0 2
10-14.	Salaries Non Established Officers	3,310 0 0	2,389 15 8	920 4 4
15.	Bonus to Established Officers ..	1,942 0 0	602 4 1	1,339 15 11
16.	Bonus to Non Established Officers	662 0 0	403 3 8	258 16 4
17.	General Grant	4,875 0 0	4,846 9 1	28 10 11
18.	Control of Animal Diseases and Improvement to Livestock	500 0 0	141 2 11	358 17 1
19.	Control of Plant Diseases and Pests	700 0 0	286 9 5	413 10 7
20.	Horticulture	3,400 0 0	3,391 14 1	8 5 11
21.	Government House Gardens ..	3,000 0 0	2,998 10 7	1 9 5
22.	Departmental Contingencies ..	400 0 0	390 4 6	9 15 6
23.	Packing House Supplies and Market Investigation	2,000 0 0	1,997 17 8	2 2 4
24.	Cold Storage Plant Operation	3,480 0 0	3,450 16 0	29 4 0
25.	Purchase,Upkeep, and Operation of Agricultural Equipment	4,000 0 0	3,999 7 7	12 5
26.	Purchase and Storage of Agricultural Supplies	600 0 0	299 12 5	300 7 7
27.	Purchase and Storage of Potatoes and Other Agricultural Produce for Resale	45,000 0 0	38,644 3 1	6,335 16 11
28.	Agricultural Education	400 0 0	370 12 5	29 7 7
29.	Agricultural Exhibition	1,500 0 0	29 19 8	1,470 0 4
30.	Biological Control of Insects of Importance to Bermuda	6,000 0 0	2,464 5 5	3,535 14 7
31.	Reafforestation and Roadside Planting	40,000 0 0	39,820 15 7	179 4 5
32.	Service to Citrus Growers	3,000 0 0	2,182 13 0	817 7 0
33.	Publications	400 0 0	19 12 8	380 7 4
34.	Agricultural and Horticultural Extension Work	500 0 0	135 17 6	364 2 6
35.	Maintenance of Grounds of Sessions House and Secretariat	1,500 0 0	908 14 11	591 5 1
36.	Travelling Expenses from U.K.	150 0 0	58 2 0	91 18 0
		135,071 0 0	115,552 7 9	19,518 12 3

ACKNOWLEDGMENT

I wish to record my deep appreciation to individuals and institutions who have contributed publications to the Department, and assistance given in other ways. The continued cooperation of the Commonwealth Institute of Biological Control, under the direction of Dr. W. R. Thompson is gratefully acknowledged. Mr. Dolph Schaefer who is ever willing to assist the Department in its landscaping projects, again gave generously of his time and talents, to plan several undertakings.

To you and Members of the Board, I am very grateful for helpful suggestions and constructive criticism, which has contributed much towards a harmonious and a successful year.

Respectfully submitted,

W. R. EVANS,

22nd June, 1952. DIRECTOR OF AGRICULTURE.

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